WebRogue: Virtual Presence in Web Sites

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ABSTRACT

WebRogue is an application for virtual presence over the Web. It provides the Web Browser with a chat subwindow that allows users connected to the same Web site to meet, share opinions and cooperate in a totally free, non moderated and uncensored environment. Each time the user loads a Web page in the Web Browser, WebRogue opens a discussion channel in a centralized server application, that is completely decoupled from the Web server, using the URL of the Web site as a key. Thus whenever a new page is loaded the user can see who is connected, as if entering a physical site. Interactivity is supported by means of two type of commands: comunication commands allow synchronous interaction as with chat or instant messaging software; Social commands allow cooperation: group surfing, exchange of visit-cards and wait in line.

Categories and Subject Descriptors:
H.5.3 [**Group and Organization Interfaces**]: Computer-supported cooperative work, Synchronous interaction.

General Terms: Human Factors.

Keywords: Web, Chat, Web Communities, Virtual Presence.

1. INTRODUCTION

Every day people use the Internet to communicate, discuss, share and find information. Every special need is served by a particular application: the Web is possibly the prime and best known source of information, almost every company and organization has its own Web site that is the digital analogy of the company's estabilishment. Synchronous communication is performed through Instant Messaging and chat applications: Microsoft's MSN and AIM are among the best known examples of such tools. Other appli-

cations exist that help people cooperate and communicate, for example Jybe (`http://www.jybe.com/`) lets users surf the Web in groups, portal systems like Php Nuke (`http://phpnuke.org/`) have addon modules that support chatting and so on. These different applications address different aspects of human interaction, but, as long as they don't interoperate, they all exist in parallel, separated worlds. If we accept the analogy of a Web site being the digital equivalent of a company's estabilishment, then we must provide our visitors with a tool to meet and communicate, otherwise our Web site will appear as a desert to our guests. WebRogue is an application for virtual presence over the Web. It provides the Web Browser with a chat subwindow that allows users connected to the same Web site to meet, share opinions and cooperate in a totally free, non moderated and uncensored environment. Each time the user loads a Web page in the Web Browser, WebRogue opens a discussion channel in a centralized server application, that is completely decoupled from the Web server, using the URL of the Web site as a key. Thus whenever a new page is loaded the user can see who is connected, as if entering a physical site. Interactivity is supported by means of two type of commands: comunication commands allow synchronous interaction as with chat or instant messaging software; users can decide to talk in couples, or simply speak loud, so that anyone that is watching the same page can listen, or even scream so that everybody on the web-site can listen. Social commands allow cooperation: two or more users can decide to form a group and surf together, exchange visit-cards and wait in line to talk to another user that is currently engaged or away from the keyboard.

2. ARCHITECTURE

WebRogue enables the birth of online communities around web-sites of interest: its prime goal is to allow synchronous communication among users connected to the same Web site, in a free, unmoderated and uncensored fashion. Unlike typical chat or instant messaging software, WebRogue users are not supposed to subscribe any service or to authenticate, and there is no need to contact a dedicated service to open a channel for discussion. Users must simply surf the Web using their favourite Web browser: a subwindow shows other users connected to the same site and allows chatting and cooperation. As users with similar interests are likely
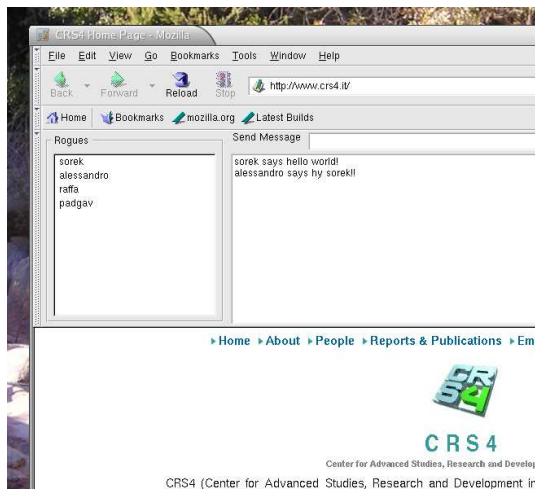
Figure 1: Mozilla with The WebRogue sub-window

to consult the same web-sites, the web-site itself becomes a meeting point for them. WebRogue is a client-server application: an add-in for the Web-browser (a Mozilla implementation is available) stays on the client side and provides a chat bar and contact list; a client-to-client communication layer (independent from specific Web-servers) runs on a known centralized server and collects and delivers messages to the clients. This solution can scale up to a large number of users and works well through firewalls, thus represents the simplest and more effective design, at least for a prototype implementation. The client application runs inside the Web-browser, and thus can listen to events such as location change. Every time the user loads a new page, the WebRogue client opens (or joins if it already exists) a discussion channel on the WebRogue server using the URL as key. Consequently whoever downloads the same Web page will join the same WebRogue discussion channel. Once connected to a discussion channel users can send messages or cooperate in several ways: messages can be sent directly to other users, to the page (i.e to all the users connected to a page), or to the Web site. It is important to underline that the WebRogue server is not related in any way to the specific Web-servers, but it runs on a dedicated, well known server. Thus Web-site owners have absolutely no control on who uses WebRogue on their page, and what can be said. No moderation or censorship is possible, no one can be denied access or granted a privileged podium. Everyone is allowed to say everything he or she thinks on whatever subject, to anyone.

WebRogue users can communicate using three different commands.

say sends a message to all the users that are watching the same page. We consider a Web page as the analogous of a room, where the Web site represents the establishment of the company. Messages sent using the *say* command are heard by anyone in the same page, as if speaking loud in the same room.

whisper sends a message to a specific user, the message is encrypted for privacy and can be signed for reliability.

scream sends a message to all the users connected to the Web site. This command should be used with great prudence. To avoid being annoyed users can choose not to listen screams, but there is no way to prevent people from screaming, we designed WebRogue with freedom in mind: users can at any time decide to ignore or run away boring people, but nobody can deny to others the right to speak.

WebRogue users can do more than chatting: several commands can be imagined (and easily implemented) to support cooperation. Social commands supported so far are:

follow Users can decide to surf the Web in groups, whenever a member of the group loads a new page, a message is sent by WebRogue to the other browsers that will change location accordingly.

handshake Just like in common instant messaging applications, WebRogue can keep a list of contacts. After handshaking with another user it is possible to see if he or she is online and send a message even if the users are connected to different pages.

wait Users can wait in line to get attention by someone. For example to talk to the clerk in an e-commerce Web site. The *wait* command supports this necessity.

Communication and social commands are mutuated respectively from chat software and role-playing games, but in WebRogue they appear under a new light because users don't have to know in advance or to connect to any specific service to communicate and cooperate. A WebRogue user can decide to chat or to follow anyone he or she meets in a Web site. We can say that WebRogue brings people *inside* Web sites, as it populates Web sites with users, givin them the opportunity to talk and cooperate.

3. CONCLUSIONS

WebRogue lets Web surfers meet in Web sites, just like people meet in real life, and interact by means of communication and social commands, without any control or censorship. It is designed with the spirit of free and spontaneous association in mind, to encourage users to share information and opinions. Unlike chat or IM software users are not supposed to subscribe any service or to authenticate, and there is no need to contact a dedicated service to open a channel for discussion. As users with similar interests are likely to consult the same web-sites, the web-site itself becomes a meeting point for them. WebRogue is an early work in progress, a pre-release for Mozilla exists but further development is needed to completely support the functionalities described. Porting to MS internet Explorer and Firefox are planned as a next step. To grant freedom a peer to peer communication layer would be preferrable to a client server architecture. The communication protocol is based on RDF for ease of implementation, an open, standard protocol like Jabber (`http://www.jabber.org`) would better suite our idea of free software. WebRogue is an open source software, to get more information, download the latest build, or participate in its development contact the authors or see `http://www.crs4.it:8000/webrogue`. This work was partially supported by MAPS (Agile Methodologies for Software Production) research project, contract/grant sponsor: FIRB research fund of MIUR, contract/grant number: RBNE01JRK8.